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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Francois Roederer

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OWENS CORNING
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EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,401	Applicant(s) ROEDERER ET AL.	
	Examiner John Hoffmann	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/29/2009 and 3/30/3009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-18 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-18 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Prosecution Application

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/29/2009 has been entered.

Claims 19-22 remain withdrawn

Response to Amendment

The amendment filed 3/30/2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: that the fluid is introduced in a direction toward the exit of the nozzle (at pages 6 and 8 of the specification).

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 12-18 and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The invention is described as the fluid being injected transversely. There is no support for it also being introduced in a direction toward the exit of the nozzle. It is clear that it is injected/introduced into the nozzle in the transverse direction, then it is converted to the exit direction. There is no separate introduction reasonably conveyed by the application as originally filed.

Claim 23 requires "the only tension on the roving unwinding from the roving packages is caused by the at least one fluid". There is no support for this. Moreover, since the specification at page 7, lines 23-24 states it is "necessary" for the roving to be directed downward and page 8, lines 38-39 state that weight of the roving contributes to tension, is clear that gravity necessarily tensions the roving. Therefore it is clear that the written description fails to convey to one skilled in the art that the inventors had possession of the invention where the at least one fluid was the only thing that created tension.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 12 and 14-17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Droux WO 02/084005 (or Droux 2004/054147) in view of Picone 4345927

Since the WO document is not in English, the US document will be relied on to show what is disclosed in the WO document.

As to the claim 1 preamble: see [0073] of Droux. The paying-out step is shown at figure 1: 1 is the package, on spindle 2, that is directly acted on by the motor 3. In light of [0089] which disclose that the bundle speed is constant at the inlet, it is deemed that the speed of the fiber at all positions is constant.

The passing of the nozzle is shown in figure 3: roving 4 passes through the top entry of nozzle 13 and then through the exit. 18 and 19 are reasonably injection ports; [0085] and [0086] describe them as air and water supplies respectively- the use of centerlines reasonably suggest that 18 and 19 are perpendicular/transverse to the nozzle - and thus the fluids enter transversely.

Droux does not state that the fluid is directed to the exit. However, [0013] indicates that Picone shows how to use a nozzle to throw a roving. Picone reasonably discloses a nozzle where the fluid is directed toward the exit (at col. 5, lines 12-16). It would have been obvious to use a Picone principles of nozzle throwing, because it is the only type disclosed by Droux as being workable. Since Picone also teaches that the speed of the fiber is increased, it is deemed that the tension is also inherently increased. The roving is shown as taught, this strongly suggests that tension is applied.

As to the dividing of the roving: See Droux [0082]

As to the throwing in an oscillatory movement, See Droux: [0089].

As to the new limitation that a rate of pay-out is imposed solely by the motor: See [0031] of Droux which discloses that something is "slaved to the bobbin". That something is the "means", the "speeds" or the "pulling means". Whichever it is, it is clear that the bobbin speed (which is controlled by the motor 3, [0071]) is imposed solely by the motor. Examiner notes that following the rules of English, the modifier "slaved to the bobbin", modifies the closest relevant object, i.e. "the pulling means".

Alternatively and/or additionally: see [0051] of Droux which discloses the pull speed and "the speed at which it is paid out" are synchronized. Examiner finds that "the speed at which it is paid out" and the claimed "rate of the pay-out" are the same thing. Examiner also finds that the Droux speeds have to be substantially identical – such as under the principal of conservation of mass. That is, since glass fibers do not stretch, if the rovings move out of the bundle at X meters/minute, they also pass through pulling means at X m/min. In other words, it would have been obvious that Droux's synchronization necessarily requires the two speeds to be equal. Thus it would have been obvious to control the motor 3 so as to pay out the fiber at the speed.

Claim 14: the specification fails to disclose any examples or reasonably describes what is meant by the head loss being higher. Thus it is deemed that the claim requires any head loss (whatsoever) at the entry that is in any way higher than

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any head loss whatsoever at the exit. It is clear that since the entry is higher than the exit, the head loss at the entrance would be higher than the head loss at the exit.

Claim 15: [0015] of Droux discloses that rovings are made. Applicant discloses at page 1, lines 34-35 of the specification that a roving generally comprises 2-50 strands. Thus the plain reading is that Droux reasonably has 2-50 strands.

Claim 16: the prior art does not indicate what the pressure is. However it is clear from the disclosure, that applicant's fluid has a different pressure at different locations, the gas quickly equilibrates to having no pressure above atmospheric. It is deemed it would have been obvious to supply the Droux gas at whatever pressure one desires - for example prior to its introduction to the nozzle.

Alternatively, it would have been obvious to perform routine experimentation to determine the optimal pressure, based on the nozzle dimensions and the desired speed of the fibers. One of ordinary skill would immediately understand that pressure is a result effective variable. The steeper a pressure gradient, the faster the gas flow across the gradient - and thus the more energy/tension transferred to the strands.

Claim 17: see [0084].

Claim 23 is met to the same extent that the present invention meets the claim language.

Claims 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Droux WO 02/084005 (or Droux 2004/054147) in view of Picone 4345927 as applied to claim 12, and further in view of Miller 6491773.

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Droux does not disclose the use of an encoder coupled to a pulley to measure the speed of the roving. Miller teaches such an arrangement when despooling fibers (figures 3-4 and col. 7, lines 1-3) so as to allow better control of the dancer position, better track fiber usage and to detect any malfunctions in fiber travel (Miller, abstract). It would have been obvious to apply such a control device with the Droux apparatus for any or all of the reasons Droux espouses its use.

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Claim 18 is directed to the fiber tension. Miller (at col 1, line 13) indicates that there is an optimum fiber tension. It would have been obvious to perform routine experimentation to determine the optimal tension in the Droux process.

2144.05 [R-1] Obviousness of Ranges

See MPEP § 2131.03 for case law pertaining to rejections based on the anticipation of ranges under 35 U.S.C. 102 and 35 U.S.C. 102/103.

II. OPTIMIZATION OF RANGES

A. Optimization Within Prior Art Conditions or Through Routine Experimentation

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.); >see also Peterson, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.");< ** In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

B. Only Result-Effective Variables Can Be Optimized

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable.). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

Furthermore, the tension by itself is not a very relevant measure. A high tension for a large roving is typically equivalent to a low tension on a small roving. For example a roving with twice as many fibers would reasonably require twice as high tension.

Response to Arguments

Applicant's arguments filed 3/30/2009 have been fully considered but they are not persuasive.

Regarding the limitation that the fluid is “introduced”, it is argued that the present specification is replete with language that the fluid is mainly “directed” toward the exit. Examiner fails to understand how the specification language of the fluid being “directed” supports the claim language as to how the fluid is “introduced”. Examiner sees no explanation. As alluded to in the rejection, the fluid is first introduced in one direction, and then after the introduction, the fluid is directed. Examiner sees no basis for concluding that introducing and directing are the same thing.

It is also argued that Droux has a combination of a motor and a pulling means so as to guarantee a constant production output – as opposed to the new claimed limitation that the pay-out rate is imposed solely by a motor. This is not convincing because “production output” and “pay-out” are not the same thing; one would not reasonably consider them the same thing. One would understand the “production output” to be the rate, but the package “pay-out” rate to be the rate the roving comes off of the package. In other words: it does not matter whether the production output is not

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based "only" on the motor, because the relevant limitation is directed to the intermediate payout rate.

It is also argued that there is no disclosure in Droux that the pay-out rate is imposed solely by a motor unwinding the roving package. Examiner disagrees. As pointed out in the above rejection, [0031] of Droux indicates that pulling means is slaved to the bobbin. Thus since the motor controls the bobbin, the motor sets the speed of pay-out: the pulling means 7 is slaved to bobbin. Thus the motor controls the payout: the pulling means 7 follows.

It is argued that one skilled would appreciate that the fluid in the Picone reference is not mainly introduced in a direction toward the exit as per present claim 12. Picone reads on the limitation to the same degree that applicant's disclosure supports claim 12. In other words: as pointed out above, Examiner fails to see how applicant's disclosure of "mainly directed" logically supports the "introduced" limitation. But whatever logic applicant uses, such logic can be applied to Picone, because Picone also mainly directs a fluid as instantly disclosed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brodmann is cited as evidence as to what one of ordinary skill considers "payout" to mean (col. 8, lines 17-20).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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